radioactive beam of 28Mg ($1.5{\cdot}10^6$pps) was scattered off a radioactive tritium target to populate states in 30Mg after two-neutron transfer. For the first time, the full HIE-ISOLDE beam energy of 9.5 MeV/u was used for a transfer experiment at MINIBALL. Thanks to the higher beam energies, the data allow insight into the full complexity of three-state mixing in the IOI, for the first time. We discuss the implications of the preliminary data analysis to our understanding of nuclear shell evolution.

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Transfer and breakup reactions involving ^{7}Be at ISOLDE

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The transfer and breakup nuclear reactions involving loosely bound light stable and unstable nuclei have interesting consequences in nuclear astrophysics. In particular, reactions with ^{7}Be are linked to the cosmological lithium problem. Detailed studies of ^{7}Be destruction channels are required before one can invoke solutions to the lithium problem beyond nuclear physics, particularly in the context of new resonances as well as conjectured light neutral particles. In addition, study of α-transfer and breakup reactions involving ^{7}Be require data on different targets with wide angular coverage. An experiment with 5 MeV/A ^{7}Be on CH_2, CD_2 and ^{208}Pb targets has been carried out at HIE-ISOLDE (IS 554). We utilized the scattering chamber installed in the third beamline of the HIE-ISOLDE facility with sets of DSSD in a pentagon geometry. Preliminary results from the experiment would be presented.

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Disentangling the 186Hg puzzle

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Neutron-deficient Hg nuclei have been the subject of intensive experimental and theoretical research since the 1970s. Actually, the first direct evidence for shape coexistence near the Z=82 shell closure was obtained for neutron-deficient mercury isotopes by means of isotope shift measurements [1]. These measurements showed that there is a unique staggering in the variations of the mean-square charge radii pointing to shape effects and shape coexistence. Very recently these measurements were revisited at ISOLDE marking the limits of this unique behaviour [2]. In this context studying the shape of the 182,184,186Hg even-even systems is of particular interest, since they lie next to the systems where the staggering takes place.

The beta decay of 186Hg has been studied at ISOLDE using the total absorption spectrometer LUCRECIA in order to infer the ground state shape of this nucleus from the distribution of the beta strength in the daughter [3], in a similar fashion to the works [4-8]. This kind of study is feasible whenever there are different patterns in the beta strength depending on the shape of the parent nucleus (see for example the theoretical works [9-12]). In this contribution we will present the challenging analysis of this experiment and its possible interpretation.

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Search for beta-delayed proton emission from 11Be

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This contribution reports the final results of the IS541 experiment that searched for beta-delayed proton emission from 11Be through detection of the final state nucleus 10Be with accelerator mass spectrometry, coupled to a determination of the 11Be intensity via gamma decays. A first experiment (published 2014 [1]) reported an observation of the decay branch. In a follow-up experiment twelve samples were collected at ISOLDE at different separator settings, allowing tests of different sources of contamination to be made. The observed amounts of 10Be per collected 11Be rule out several contamination sources, but do not agree internally and seem to be inconsistent with a recent experiment from TRIUMF [2]. Possible explanations for the disagreement will be discussed.

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